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Habitat management for

OWLS



In Kansas there are nine species of owls that may be seen during some season of the year. These nine species may be divided into three groups according to their size and whether or not they have erect tufts of feathers on the head that look like ears or horns.

Owls with ear tufts:

Great horned owl - Bubo virginianus
Long-eared owl - Asio otus
Short-eared owl - Asio flammeus
Screech owl - Otus asio

Adult body
length (inches)*

18-25
13-16
13-17
7-10

Large owls without ear tufts:

Snowy owl - Nyctea scandiaca
Barred owl - Strix varia
Barn owl - Tyto alba

20-27
17-24
14-20

Small owls without ear tufts:

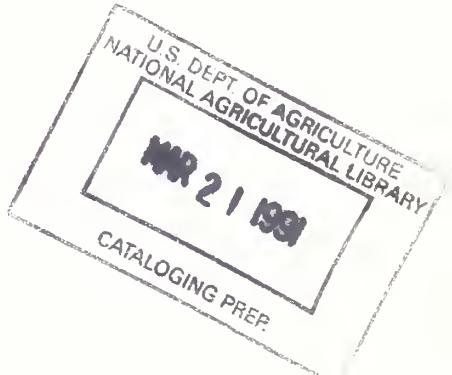
Burrowing owl - Speotyto cunicularia
Saw-whet owl - Aegolius acadicus

9-11
7-8

*The females are larger than the males in most species.

The snowy owl and the saw-whet owl occasionally migrate to Kansas in search of winter food; however, they are both considered rare winter visitors. The long-eared and short-eared owls are commonly seen in Kansas but they rarely nest here. The other five owls commonly nest in Kansas and are year-round residents.

Owls have been the subject of fear and superstition for ages. It was once believed that if one saw the silhouette of a screech owl at night, or heard its cry, it foretold some fearful misfortune was coming. Many hunters shot owls on sight believing they killed large numbers of game birds and poultry. Today, through research, we know that owls are much more beneficial than our forefathers had thought. We know that up to 90 percent of some owls' diets are mice. Projecting this, a pair of large



owls raising two young could reduce the mouse population by 11,000 individuals in a single year's time. An occasional quail, pheasant, or rabbit may be taken but mice and rats make up the major portion of their diets. Small owls also eat many insects such as grasshoppers, crickets, moths, and June beetles. Screech owls, which sometimes live in cities, often take house sparrows for food. Most owls, however, prefer the solitude of remote wooded areas along streams. Many use well established windbreaks as roosting areas and the evergreen trees are often preferred.

All owls are carnivores. That is, they require meat for their diet. The large and medium sized owls are primarily night time hunters. They are well adapted for this role. The extremely good ears, forward-facing eyes, hooked bill, strong, sharp claws, and soft feathers which let the bird glide silently through the night, all play a role in making it the successful hunter it is. The claws are used in capturing their food. Diving down upon a rodent, the powerful claws are driven through vital organs, usually causing a quick and painless death. Just to be sure, the owl often administers a blow at the base of the skull with its strong, hooked beak.

Unlike hawks, owls do not pick and tear apart the animals they catch unless the animals are large. They swallow small animals whole. An owl's digestive tract is equipped to separate the swallowed meat from the bones, teeth, and fur, and this waste material is cast up and spit out as "owl pellets." Owl pellets, which are nothing more than oblong globs of fur and bones, often accumulate under roosting trees. Wildlife biologists sometimes collect and analyze these pellets to determine their feeding habits.

The great horned owl may nest as early as January but most owls nest from March to May. The larger owls often use old crow or heron nests. Some species may return to the same nest year after year. Many of the owls use tree cavities or rock ledges for nesting. A few species may choose to nest on the ground or in burrows dug by prairie dogs, or badgers, and live quite compatibly in the same community. Barn owls often nest in barns or old buildings.

In some species the number of eggs laid per nest appears to be adjusted to the available food supply. In years of high mouse populations, more eggs are laid than in years when rodent populations are small. Owls begin incubating their eggs as soon as the first egg is laid. The female usually incubates the eggs. Egg laying can take several weeks and by the time the last egg hatches, it may have a nest mate that is about ready to leave the nest. If food becomes scarce, the new nestling may end up being a meal for the older brother or sister.

The eggs hatch in about 34 days for the larger species and in about 24 days for the smaller species. Both males and females feed and protect the young. Owls are courageous in the defense of their nests and young and will often attack aiming for the eyes and head of anyone approaching too close. Most owls "fluff up" when scared or angry which makes them look larger and meaner. Some owls hiss like a snake when approached. Owls should not be teased or bothered while they are nesting, since this could cause them to abandon their nest or young.

Young owls will often eat their weight in mice each day. This keeps the parents very busy hunting for themselves and their young during the 4 to 10 weeks in the spring when they have nestlings. In this nightly search for food an adult owl may catch more mice than a dozen cats.

Most owls are quite secretive, especially during daylight hours. They blend into their natural surroundings when roosting and many use tree cavities. Great horned and barred owls can sometimes be located by observing a group of crows or bluejays as they noisily dive at or chase them through the air. These birds take great delight in teasing and pestering the large owls, but they are very careful in staying out of their reach.

Habitat Needs

Owls, like many other species, prefer several different types of areas for hunting and year-round cover. When different types of areas like cropland, grassland, and woodland are in close proximity, there exists an "edge effect" that adds variety both in plant and animal species.

Food--The basic part of the diet of all owls is meat. Mice, rats, and other small animals usually make up 60 to 90 percent of their food. The small owls also consume large numbers of insects. Other food items would include: frogs, lizards, snakes, skunks, and sometimes fish. Very little, if any, plant food or seed is ever used. An occasional rabbit, pheasant, quail, or songbird is also taken but percentagewise, this is very small. The great horned owl may become a nuisance around poultry farms and one may need to be removed. All owls are protected by law and a permit from a federal game agent is required. The large owls often have a hunting territory of several square miles while the smaller owls require much less acreage.

Cover--Owls require cover for nesting, roosting, and hunting. Of the seven more common owls of Kansas, five species depend on trees and woodlands to meet one or more of those requirements; but two, the burrowing owl and the short-eared owl, are birds of open country and are not dependent on trees. The barred and great horned owls use woodlands as hunting territory; however, all but the barred use cropland, rangeland, and marshes as hunting grounds. For nesting and roosting cover, all but the burrowing and short-eared owls use trees or wooded areas. The barn owl frequently nests and roosts in old buildings. Clumps of evergreens or deciduous trees with dense foliage are favorite roosting areas for many owls.

Water--Owls obtain some of their water from the moisture in their food, but they also require some free water which they drink from ponds and streams.

Habitat Management Suggestions

Woodland clearing and encroachment of cropland have in the past accounted for most of the owl population reduction. With an anticipated continuing growth in human population and development, further losses are projected in the future. However, there are some management practices that can be adopted to maintain or improve conditions for owls.

1. Plant and manage trees for owl nesting and roosting as well as for lumber, firewood, and nut production. Trees may also provide windbreak protection and beautification. Windbreaks can be enhanced for owls by including dense evergreens such as pines and cedar. Management for owls and other wildlife should be a dual purpose of woodlands. Some large trees with cavities should be maintained and not harvested. Wooded areas should be fenced to limit livestock use. Wooded areas along streams should be preserved and, in many instances, improved by planting additional native species such as walnut, oak, hackberry, ash, etc.
2. Fall harvested crops should not be tilled until the following spring to provide food and cover for rodents and other wildlife. If tillage is needed, undercutting implements should be used to keep from burying crop stubble and waste grain.
3. Proper use and good management should be practiced on all rangeland and pastureland. A grazing system, with scheduled rest periods for each pasture during the growing season, will often help improve the quality of forage and its wildlife value. Many pastures can be improved in this manner but a few may need to be reseeded. If reseeding is necessary, serious consideration should be given to planting native grass and forbs for minimum maintenance, dependable grazing, and high wildlife use.
4. Protect nest sites and caution hunters not to shoot owls. Stress the beneficial value of owls in controlling rodents and insects. All owls are totally protected by state and federal law.
5. Barn owls are unique in that structures built by humans are frequently used for nesting, especially abandoned houses and barns. These structures can be further enhanced by installing nesting boxes in attics and rafters and providing access openings to the building's interior. Screech owls may also nest in smaller boxes placed in trees.

As with most predators in Kansas, the abundance of owls is tied closely to the abundance of prey, as well as availability of suitable nesting and roosting cover. In general, food supply is not the limiting factor for owls in Kansas. Habitat improvements should be directed toward providing nesting and roosting cover.

The Soil Conservation Service, local conservation districts, Kansas Fish and Game Commission, and Kansas State University Cooperative Extension Service offer competent guidance on soil, water, plants, and wildlife habitat management.



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